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EXAMINER

KISS, ERIC B

ART UNIT PAPER NUMBER

2122

DATE MAILED: 11/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/560,373

Applicant(s)

MEREDITH ET AL.

Examiner

Eric B. Kiss

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 2,23,24 and 28 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 and 5. 6) ☐ Other: _____

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DETAILED ACTION

1. Claims 1-28 have been examined.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "Central Server 375" in Fig. 2b (see, for example, page 17, paragraph 3, line 3). There is an item in Fig. 2b labeled "CENTRAL SERVER", which has presumably been erroneously designated by reference numeral "325". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: On page 23, line 13, recitation of "Fig. 43c" should presumably read --Fig. 24c--.

Appropriate correction is required.

Claim Objections

4. Claims 2, 23, 24, and 28 are objected to because of the following informalities:

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Claims 2, 23, and 24 each recite a phrase “distinguishing between [element(s)] from [other element(s)]” in lines 3-4, 4-5, and 2-3, respectively. The word “from” should be changed to --and-- in each case.

Claims 23, 24, and 28 each contain a superfluous period (.) within the body of the claim at the end of lines 5, 3, and 5, respectively.

The word “association” in line 6 of claim 24 should apparently read --associating--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claimed method steps of using a first and second verb of a process algebra to represent and differentiate independent and interdependent operations (claim 1, lines 3-7) apparently refer to page 14, third paragraph, of the specification. This portion of the specification describes the process algebra of the present invention as a variation of a prior art “conventional” PI calculus, which, as specified, is based on a single verb. The modification is described as “[allowing] for

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explicitly representing parallelism within the business workflow process by separating communicating concurrent transactions from independent concurrent transactions and mitigating deadlock associated with conventional systems”. However, the specification lacks disclosure of how the “verbs” are related to the indicated figure (Fig. 1d) and a mode for carrying out the modification of the prior art process algebra. The specification further does not explicitly state the particular roles of each individual variable in representing parallelism or mitigating deadlock within a system. As related to the claimed limitations, the specification does not clearly relate the concept of process algebra to that of business workflow and does not adequately describe how the verbs are used to differentiate an independent operation from a set of interdependent operations. Because the specification does not adequately describe the claimed subject matter, it would not enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 21, 23, 26 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 recites the limitation "the computer readable media" in line 1. There is insufficient antecedent basis for this limitation in the claim. In the interest of compact prosecution, this limitation is subsequently treated as reading "the computer readable medium" for the purpose of further examination.

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Claim 23 recites the limitation “allowing association of transaction operations and groups of business operations” in line 8. The leading phrase “allowing association of” of this limitation is not considered by the Examiner to be a positive recitation, and the overall limitation does not appear to be a natural result of previously recited method steps. It is not clear to the Examiner whether or not this limitation is a necessary step in successfully carrying out the claimed method.

Claim 26 recites the limitation "the schedule" in line 3. There is insufficient antecedent basis for this limitation in the claim. In the interest of compact prosecution, this limitation is subsequently treated as reading “a schedule” for the purpose of further examination.

Claim 27 recites the limitation "the programmable language". There is insufficient antecedent basis for this limitation in the claim. In the interest of compact prosecution, the Examiner makes the assumption that this claim is intended to be dependent on claim 26, wherein “a programmable language” is recited as a claimed limitation.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 1-28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claims 1-6 and 23, these claims are directed toward the manipulation of abstract data, i.e. process algebra verbs and business process operations. A process that consists solely of

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the manipulation of an abstract idea is not concrete or tangible. See *In re Warmerdam*, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). See also *Schrader*, 22 F.3d at 295, 30 USPQ2d at 1459. The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (*Brenner v. Manson*, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); *In re Ziegler*, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful. See MPEP § 2106.

As per claims 7-22, although independent claims 7, 12, and 22, each contain preamble elements referring to a system and a computer-readable medium, these elements are given little patentable weight because they are separately expressed and unrelated to the body of each claim, which defines only the preamble element "plurality of computer-executable components". Because the components are not explicitly stated as being embodied on the preamble computer-readable medium, claims 7-22 are treated as claiming a computer program representing a computer listing *per se* and rejected as set forth below.

As per claim 28, although the preamble to this claim refers to a system, this limitation is given little patentable weight because the body of the claim defines elements as means for performing specified functions that correspond in the specification to computer program

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elements representing a computer listing *per se*. Accordingly, this claims is rejected as set forth below.

Claims 7-22 and 24-28 claim a computer program representing a computer listing *per se*, that is, descriptions or expressions of such a program and that is, descriptive material *per se*, non-functional descriptive material, and is not statutory because it is not a physical “thing” nor a statutory process, as there are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed aspects of the invention which permit the computer program’s functionality to be realized. Since a computer program is merely a set of instructions capable of being executed by a computer, the program itself is not a process, without the computer-readable medium needed to realize the computer program’s functionality. In contrast, a claimed computer-readable medium encoded with a computer program defines structural and functional interrelationships between the computer program and the medium which permit the computer program’s functionality to be realized, and is this statutory. **Warmerdam**, 33 F.3d at 1361, 31 USPQ2d at 1760. **In re Sarkar**, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978). See MPEP § 2106(IV)(B)(1)(a).

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 7-14 and 22-25, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Release 8.0 of the Workflow Template software product publicly available from Template Software, Inc. in 1998 as evidenced by "Using the WFT Development Environment", 1998 (hereinafter Template).

As per claim 7, Template discloses a user interface component (Workflow Design Editor) and a plurality of model components (tasks, flows, work items, roles, junctions, and labels) accessible through the user interface component and adapted to allow a user to create a model of a business process (workflow design; see "Introduction" on page 3-2, and in particular, the first paragraph of that section), the plurality of model components comprising a distinguishing model component (copy flow junction box; see "Creating copy flows" on page 3-20) for distinguishing between concurrent autonomous (using separate flows) business operations and concurrent interdependent (using a single flow) business operations (the copy flow allows operations using the same flow to be represented independently; see Fig. 3-3 on page 3-12 in which the copy flow junction box supplies the same "REQUISITION" flow to both the "Approve Requisition" and "Check Inventory" tasks).

As per claim 8, Template further discloses a transaction grouping model component (compound flow junction box) for grouping business operations into concurrent interdependent transactions (forms a work item set associated with the compound flow; see "Creating compound flows" on page 3-19).

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As per claim 9, Template further discloses the grouping model component (compound flow junction box) providing synchronization of concurrent interdependent transactions based on the completion of the concurrent interdependent transactions (forming a concatenation of the two or more input work items, as a result of an *And* junction condition; see “Creating compound flows” on page 3-19).

As per claims 10 and 11, Template further discloses associating actions (tasks) with transactions (work items; see Table 3-1 on page 3-3 and second paragraph of “About the Task Editor perspective on tasks” on page 6-2). Therefore, the transaction grouping model component disclosed by Template also functions as an action grouping model as claimed.

As per claim 12, Template discloses a user interface component (Workflow Design Editor) and a plurality of model components (tasks, flows, work items, roles, junctions, and labels) accessible through the user interface component and adapted to allow a user to create a model of a business process (workflow design; see “Introduction” on page 3-2, and in particular, the first paragraph of that section), the plurality of model components comprising at least one boundary establishing component (flows) for defining transaction (work item) boundaries (a flow defines a possible route between tasks through which a work item can travel; see Table 3-1 on page 3-3).

As per claim 13, Template further discloses a component for establishing concurrent operations (copy flow; see Table 3-1 on page 3-3 and “Creating copy flows” on page 3-20).

As per claim 14, Template further discloses a component for establishing sequential operations (plain flow; see Table 3-1 on page 3-3).

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As per claim 22, Template discloses a user interface component (Workflow Design Editor) and a plurality of model components (tasks, flows, work items, roles, junctions, and labels) accessible through the user interface component and adapted to allow a user to create a model of a business process (workflow design; see “Introduction” on page 3-2, and in particular, the first paragraph of that section), the plurality of model components comprising a component (compound flow junction box) for defining concurrent synchronizing constraints as occurring upon the completion of the autonomous operations (forming a concatenation of the two or more input work items, as a result of an *And* junction condition; see “Creating compound flows” on page 3-19).

As per claims 23, 24, and 28, Template discloses a method of, software for (Workflow Template 8.0), and means for: distinguishing between synchronization of autonomous concurrent operations (using separate flows) and interdependent concurrent operations (using a single flow; the copy flow allows operations using the same flow to be represented independently; see Fig. 3-3 on page 3-12 in which the copy flow junction box supplies the same “REQUISITION” flow to both the “Approve Requisition” and “Check Inventory” tasks); expressing synchronization constraints on completion of autonomous concurrent operations (forming a concatenation of the two or more input work items, as a result of an *And* junction condition; see “Creating compound flows” on page 3-19); and associating transaction operations and groups of business operations (creating a workflow design that represents the flow of work throughout your business; see “Introduction” on page 2-2).

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As per claim 25, Template further discloses a graphical user interface (Workflow Design Editor; see "Introduction" on page 3-2, and in particular, the first paragraph of that section) adapted to allow a user to model a business process using the components.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Template as applied to claim 13 above.

Official notice is taken that it was well known and commonly practiced in the computer art at the time the invention was made to incorporate a computer readable medium into a computer system in order to allow data transfer between the medium and the system, such as, for example, for the execution of a program embodied in a CD-ROM medium on such a computer system. Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to have a computer readable medium residing on a computer system as part of a system incorporating the Template product.

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15. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Template as applied to claim 12 above, and further in view of U.S. Patent No. 5,940,839 to Chen et al.

As per claim 15, Template discloses such a system for business process modeling including a user interface and a plurality of model components (see disclosure applied above to claim 12) but fails to teach a compensation model component adapted to compensate committed interdependent concurrent transactions and being invoked upon the occurrence of a failed interdependent concurrent transaction. However, Chen teaches, as part of a transaction processing method and system, such a compensation model component (transaction management system (TMS) mechanisms; see column 5, lines 10-48) adapted to compensate committed interdependent concurrent transactions and being invoked upon the occurrence of a failed interdependent concurrent transaction (see column 2, line 65 through column 3, line 33). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to modify the Template product to incorporate a compensation model component as once taught by Chen. One would be motivated to do so to provide the ability to handle transaction failures.

As per claim 16, Chen further teaches transactions being children in a parent transaction (as part of an "ancestor tree"; see column 3, lines 24-27) wherein a compensation routine is invoked by the parent transaction (the failed transaction is undone by proceeding from the in-process closest recoverable ancestor (ICRA) transaction; see column 3, lines 11-33). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to further modify the Template product to include invocation of a compensation model component by a parent transaction as per the teachings of Chen. One

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would be motivated to do so allow recovery of a failed transaction by reverting back to a parent transaction.

As per claim 17, Chen further teaches calling compensation routines within the committed interdependent concurrent transactions (see column 9, lines 4-17). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to further modify the Template product to include compensation routines within committed interdependent transactions as per the teachings of Chen. One would be motivated to do so enable elimination of the effect of a transaction.

As per claims 18-20, Chen further teaches calling compensation routines within a failed transaction based on information on committed transactions stored within a database (see column 8, line 61 through column 9, line 5). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to further modify the Template product to include the compensation model component calling compensation routines within the failed interdependent concurrent transaction based on information on the committed interdependent concurrent transactions stored within a database as per the teachings of Chen. One would be motivated to do so allow for compensation of committed transactions beyond the failure affected scope.

16. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Template as applied to claim 24 above, and further in view of U.S. Patent No. 6,393,456 to Ambler et al.

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As per claims 26 and 27, Template discloses such software, including the first, second, and third components performing functions in a schedule (see disclosures applied above to claim 24), but does not explicitly disclose the software comprising a programmable language having an XML syntax. However, Ambler teaches that workflow specifications may be written in such a programmable language having an XML syntax (see column 8, lines 42-46 and column 12, lines 49-59). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to modify the Template product to include a programmable language having an XML syntax as once taught by Ambler. One would be motivated to do so to provide a robust tool for specifying workflows.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Kiss whose telephone number is (703) 305-7737. The examiner can normally be reached on Tue. - Fri., 7:30 am - 5:00 pm. The examiner can also be reached on alternate Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (703) 308-4789.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, DC 20231

Or faxed to:

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(703) 746-7239 (for formal communications intended for entry)

Or:


(703) 746-7240 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal
Drive, Arlington, VA, 22202, Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the receptionist whose telephone number is (703) 305-3900.

EBK

November 4, 2002


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